

App. No. 10/070,288
Office Action Dated September 26, 2005

REMARKS

Favorable reconsideration of this application is requested in view of the above amendments and the following remarks. Claims 1, 3-9, 11, 16, and 20 are hereby amended..

The amendments of claims 1 and 16, reciting "the signal-detecting photodetector element receives a beam that is obtained by diffracting the reflected light beam of the main beam with the reflected beam dividing portion and then diffracting an obtained zero order diffracted beam with the first diffraction grating region", are supported, for example, by Figure 1. Claims 3-9, 11, and 20 are amended editorially.

Claim 11 was objected to for missing an equation as originally recited. The above amendments address the concerns of the Examiner. Favorable reconsideration of claim 11 is requested.

Claims 3-9, 11, and 20 were rejected as being indefinite. Claims 1, 11, and 20 are amended to address the concerns of the Examiner. Favorable reconsideration of claims 3-9, 11, and 20 is requested.

Claims 1, 2, 9, 11, and 16 were rejected as being anticipated by Yamazaki (US 5,608,695). Applicants traverse this rejection. The Examiner contends that the second hologram (28b) disclosed in Figure 6 of Yamazaki and the gratings (8a) disclosed in Figure 2 of Yamazaki have the same properties, and are equivalent to the "emitted beam dividing portion" required by claims 1 and 16. Applicants disagree with this view. The gratings (8a) disclosed in Figure 2 divide an emitted laser beam from a laser into 0-order, +1-order, and -1-order beams. The +1-order and -1-order beams are used for detecting a tracking error signal. In contrast, the second hologram (28b) disclosed in Figure 6 is for interfacing with reflected light. The second hologram (28b) diffracts the 0-order beam emanating from a first hologram (28a) and gives +1-order and -1-order diffracted beams astigmatism (see column 5, lines 15-55). The astigmatism is for detecting a tracking error signal. Therefore, it is not necessary for the second hologram (28b) to divide a laser beam from a laser into a main beam and two sub beams, as required by claim 1 and 16, since a tracking error signal is based on the diffraction of the reflected light.

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Further, applicants note that Yamazaki discloses a laser beam emitted by a semiconductor laser (29) that is transmitted **through** the first and second holograms (28a, 28b), and is projected onto the optical recording medium (23) by the objective lens (22). See column 4, lines 56-60.

Claims 1 and 16 require an emitted beam dividing portion and a reflected beam dividing portion. The claimed emitted dividing portion both divides an emitted light beam from a laser element into plural beams and diffracts a light beam reflected by a recording medium for entering into a signal-detecting photodetector element. The claimed configuration reduces the light receiving area of the signal-detecting photodetector element, since the emitted beam dividing portion diffracts the reflected light beam for allowing the diffracted beam to enter into the signal-detecting photodetector element. In contrast, Yamazaki teaches giving diffraction beams astigmatism. In fact, Yamazaki discloses a photodetector having a large area in order to detect the beams having astigmatism.

Yamazaki does not suggest the invention of claims 1 and 16, or the advantages achieved thereby. The reduced light receiving area of the signal-detecting photodetector element provided by the devices of claims 1 and 16 reduces the capacitance associated with the photodetector element, thereby ensuring high-speed response of the reproduction signals. Further, the area reduction provides a decrease in stray light incident on the detecting portion for detecting reproduction signals. Therefore, the devices of claims 1 and 16 provide reproduction signals with an excellent signal to noise ratio.

Favorable reconsideration of claims 1, 2, 9, 11, and 16 is requested.

Claims 3 and 4 were rejected as being unpatentable over Yamazaki in view of Katayama (US 6,894,958). Applicants traverse this rejection. Claims 3 and 4 should be considered allowable for at least the same reasons as claim 1, from which they depend. Katayama does not remedy the deficiencies of Yamazaki, as previously noted. Favorable reconsideration of claims 3 and 4 is requested.

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Claim 5 was rejected as being unpatentable over Yamazaki in view of Opheij (US 4,918,679). Applicants traverse this rejection. Claim 5 should be considered allowable for at least the same reasons as claim 1, from which it depends. Opheij does not remedy the deficiencies of Yamazaki, as previously noted. Favorable reconsideration of claim 5 is requested.

Claims 6-8 were rejected as being unpatentable over Yamazaki in view of Heemskerk (US 4,665,310). Applicants traverse this rejection. Claims 6-8 should be considered allowable for at least the same reasons as claim 1, from which they depend. Heemskerk does not remedy the deficiencies of Yamazaki, as previously noted. Favorable reconsideration of claims 6-8 is requested.

Claims 17-21 were rejected as being unpatentable over Yamazaki in view of Hasegawa (US 5,881,043). Applicants traverse this rejection. Claims 17-21 should be considered allowable for at least the same reasons as claim 1, from which they depend. Hasegawa does not remedy the deficiencies of Yamazaki, as previously noted. Favorable reconsideration of claims 17-21 is requested.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions regarding this communication can be directed to the undersigned attorney, Douglas P. Mueller, Reg. No. 30,300, at (612)455-3804.

Dated: December 22, 2005



DPM:mfe

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read "Douglas P. Mueller", written over a horizontal line.

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